

BROCHURE

# **System pro E power**

## System pro E power Rear Busbar System



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**System pro E power is the newest ABB's main distribution Low-Voltage Switchgear solution with rated current up to 6300A and short-circuit current up to 150kA with main busbar system accommodated in the back of the cabinet. Designed to easily fulfill all electrical installation requirements in terms of protection degree, segregation form and electrical characteristics, according to the latest international standards and in perfect synergy with all ABB's low voltage equipment.**

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# Your key resource

The ABB System Pro E Power Rear Busbar System is a low-voltage switchgear ASSEMBLY, designed and verified in accordance with IEC 61439-1/-2.

The modular and scalable design, the advanced portfolio and the electrical and mechanical features make System Pro E Power Rear Busbar System a compact high performance for low-voltage premium applications.

<b>Standard</b>	tested according to IEC 61439-1/2 tested according to IEC TR 61641 – up to class C
<b>Installation type</b>	Fixed installation (FFF) <sup>1</sup> plug-in (WWD) <sup>5</sup> removable (WFD) <sup>5</sup> withdrawable technique (WWW) <sup>5</sup>
<b>Special Features</b>	lcw up to 150 kA for main busbars system lcw up to 75 kA for distribution busbars system

<sup>1</sup>Types of electrical connection of functional units

First letter - supply of the main circuit, second letter - output of the main circuit, third letter - connection of the auxiliary circuits.  
F - fixed connection (to be loosened or fastened with tools), D - detachable connection (to be loosened or connected by hand without tools), W - guided connection (connection is loosened or made when the functional unit is removed or inserted).



# Reliable in extreme condition

Thanks to the tests performed on the product, the low-voltage switchgear can stand a rated short-time withstand current (ICW) up to 150 kA and a maximum rated current up to 6300 A, allowing the possibility to optimize the transformers in the electrical systems by splitting the needed power on more than one transformers.

Additionally, in case connection is by means of busduct, ABB has design verified solutions in the portfolio. Furthermore, Rear Busbar System is capable to reach up to Criteria 1-7, according IEC TR 61641.



# Certifications, design-verifications and laboratory tests

System pro E power guarantees quality and safety in accordance with international standards IEC 61439-1 and -2.

Design verification was achieved after stringent tests that involved the entire configuration (structure, circuit-breakers, other apparatus and busbar system), thus systems conforming to the new international standards can be created by following ABB's instructions, configurators and guidelines. System pro E power switchgears was subjected to electrical and mechanical tests at the ABB test laboratory, accredited in Italy by ACCREDIA and by important international certification bodies like ACAE/LOVAG, ANCE, ASTA, ETL SEMKO, UL, CSA and Shipping Registers.

The test results guarantee high and reliable performance, so the final ASSEMBLY manufacturer need not to conduct further design verification or assessments if the components have been selected according to configurator and assembled according to ABB's instructions. Individual routine verifications and testing the wired switchgears are left to the ASSEMBLY manufacture.

Furthermore, System Pro E Power Rear Busbar System goes beyond the IEC 61439 design verification, providing additional compliance to the IEC TR 61641 up to class C.



# Best-in-class devices

Emax 2 Air Circuit Breakers (IEC) are completely integrated with ABB main distribution platforms. They embed more and more functionalities to become the all-in-one solution able to manage the low-voltage distribution systems.

Emax 2 manages any conditions of the grid thanks to advanced functions such as Load Shedding, Power Controller, ATS, Interface Protection, Synchrocheck logics, Adaptive Protection. Additionally, it perfectly integrates into all automation and energy management systems thanks to the eight communication protocols supported.

Easy connection to the cloud computing platform ABB Ability™ Energy and Asset Manager. Remote connection through the embedded Bluetooth Low Energy technology.

Tmax XT range, break new ground simply means delivering value through the entire customer journey by leaving behind the traditional concept of circuit-breaker.

The SACE Tmax XT range offers a unique customer experience that, sharing the same features and logics with the Emax 2 range, for the first time ever overcomes the differences between molded case and air circuit-breakers.

The most advanced products designed to maximize data and connectivity, ease of use and installation, performance and protection, safety and reliability. The SACE Tmax XT range offers higher performance, better protection and more precise metering than equivalent units, and can handle from 160 up to 1600A.

Combined with the world's most precise electronic trip units in the smallest frames, the new range delivers significant time savings and enhances installation quality. Reliability is further increased, and speed of installation reduced, thanks to Bluetooth and the EPiC Mobile App for mobile devices.

Perfect integration into all automation and energy management systems thanks to the eight communication protocols supported. Easy connection to the cloud computing platform ABB Ability™ Energy and Asset Manager. Remote connection through the embedded Bluetooth Low Energy technology.

Moreover to circuit breakers, SlimLine XRG drives exceptional energy efficiency, reducing temperature rise and enabling higher performance across the panel board. Installation is quick and easy with simple plug-in contacts. Integrated ITS2's cloud connectivity makes it easy to monitor key electrical parameters and real-time monitoring helps you optimize your networks simply and safely.

The InLine II fuse switch disconnecter, with built-in metering and monitoring unit, supports more advanced energy management and speedy installation for smart commercial and industrial buildings with ABB Ability™ Energy and Asset Manager.



## Space saving

Footprint optimization thanks to width section designed to optimize breaker dimensions, dedicated solution to enhance efficiency. Additionally, up to 2500 A an incoming / outgoing breaker may be combined with a coupler breaker to optimize the overall switchgear footprint.

Vertical or horizontal installation may be flexibly chosen to optimize the overall switchgear dimensions. In case of L shape or U shape switchgear, corner sections are present in the portfolio. PE offset is always granted within the section.





# Affordable range

In case of affordable protection, ABB fuse gears devices are design verified within the System Pro E Power platforms. In SpEp RBBS, Xline Horizontal 185 mm or Xline Vertical 185 mm can be used for switch disconnecter fusegear installation.

Inline II section are suitable for corresponding device installation. The systems are available in three delivery forms, flatpack, partially assembled or fully assembled.



# Easy to install

Top and bottom panels are equipped with cable entry flanges, according to IP specifications.

Within the section are always present the cross-pieces for fixing the cable to structure. PEN/N and PE busbars are accommodated in a way to provide an agile cable connection. In Rear Busbar System, inspection protection is given in cable area.

Internal kits are designed in a way that auxiliary channel may be accommodated easily within solutions. Single sections can be moved as one transportation unit.

Generous space for installation of current transformers is provided on copper connections from circuit breaker to cable or busduct connection and from main busbar system to circuit breaker.

XLine Horizontal 50 mm solution allows the installation of removable or plug in MCCB adapter combined with Slimline XRG, drastically reducing the installation and upgrade time for the outgoing units up to 630 A.

While System Pro E Power 185 mm busbar system is the simplest solution to be installed, composed by few pieces which can be quickly coupled together.

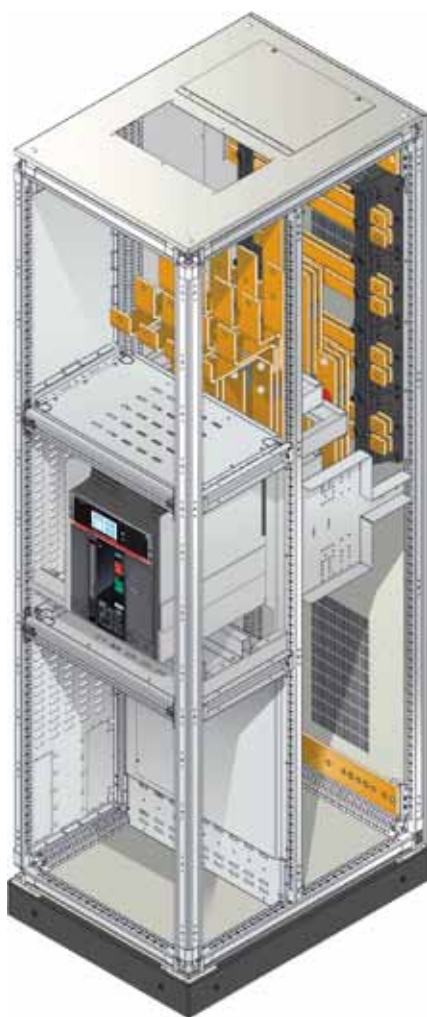
<b>Scope of application</b>		Main distribution board solutions up to 6300 A with a rated short time withstand current from 50 kA to 150 kA
<b>Location Main busbar</b>		Rear, upper or lower position
<b>Dimensions</b>	Height [mm]	2100/2200 mm with 100 mm plinth
	Width [mm]	400, 500, 600, 800, 1000, 1200 and 1350 mm
	Depth [mm]	600, 800, 1000
<b>Cabinet construction</b>		Partially/completely assembled. as flat pack
<b>Form</b>		1, 2b/3b, 4a, 4b
<b>Protection class</b>	Accessible parts	IP30/31, IP40/41
	For bottom plates	IP00, IP30, IP40

# Typical sections

## Vertical circuit breakers sections

Vertical circuit breakers sections allow the installation of ABB Emax 2 air circuit breakers and ABB Tmax XT molded case circuit breakers. The kits have been designed to host in the much more compact dimension in width the circuit breaker

Circuit breakers can be 3P or 4P, with neutral connection always at 100%. Additionally, N-link con-



nections are present, in order to directly connect the neutral cable to the N busbar which is running in parallel closer to phases.

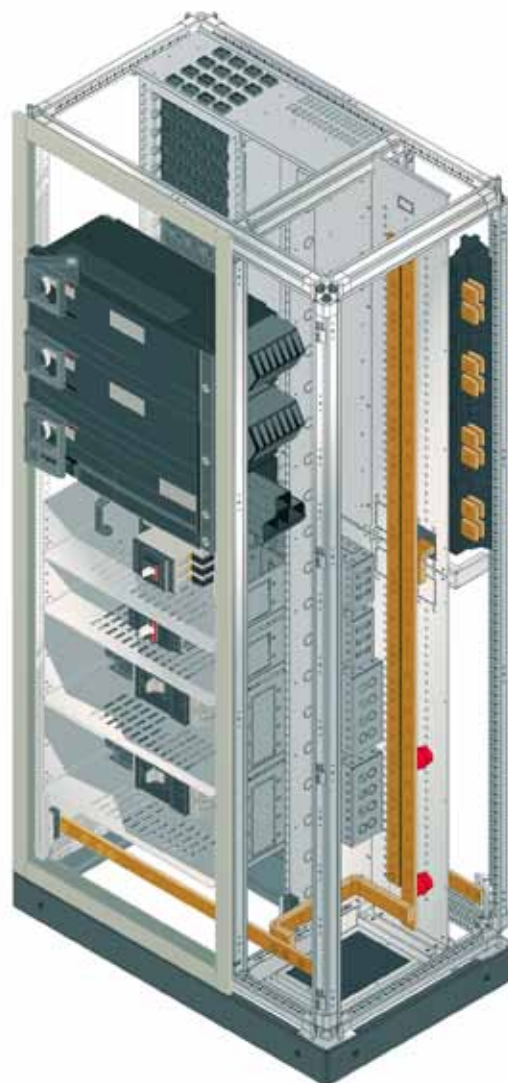
Cable entry is always feasible: the power cables are connected to the structure of the low voltage switchgear by means of sturdy cross-pieces. Up to 4000 A, ABB has designed design verified connections also of two busducts systems.

## XLine Horizontal 50 mm

XLine Horizontal 50 mm is the cutting-edge solution for cable feeders up to 630 A. It combines the new designed adapters, for plug-in execution (WFD – as IEC 61439 part 2) or removable execution (WWD – according same previously cited standard) from XT2 up to XT5 630 A and Slimline XRG 50 mm – always in plug-in execution.

All the devices, included Slimline XRG, are equipped with safety interlock to provide the highest level of protection in case of connection of an apparatus on live conductors or its disconnection.

XLine Horizontal 50 mm is the best suitable solution for high demanding applications.





# Typical sections

## XLine Horizontal 185 mm

XLine Horizontal 185 mm sections are suitable for affordable protection in which only switch disconnecter fusegears are needed installed in horizontal within a functional height up to 2000 mm in case of 4P MBBS.

It allows the installation of Slimline XRG switch disconnecter fusegears, 185 mm distance between phases and 10 mm plug thickness. This reduce drastically the need of installation tools / time for installer, even in case of replacement. Outgoing cables are connected directly to XRG terminals in an optimized internal cable container.

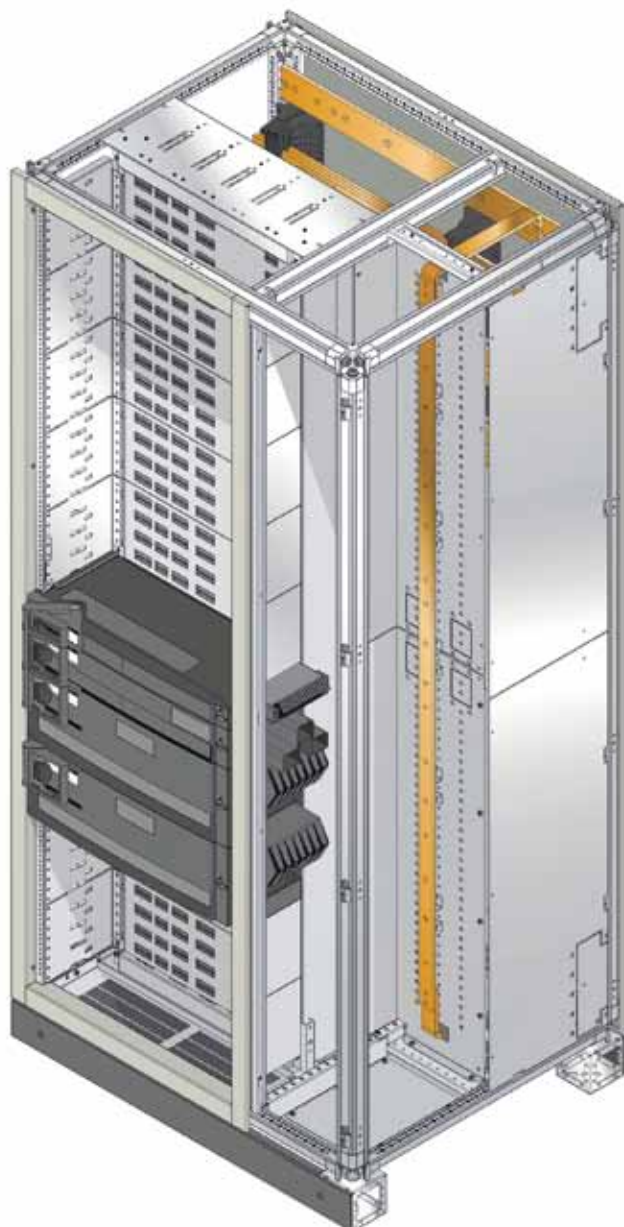
## XLine Vertical 185 mm

XLine Vertical 185 mm sections are suitable for affordable protection in which only switch disconnecter fusegears are needed installed in horizontal within a width of 900 mm.

It allows the installation of Slimline XRG switch disconnecter fusegears, 185 mm distance between phases and 10 mm plug thickness. This reduce drastically the need of installation tools / time for installer, even in case of replacement. Outgoing cables are connected directly to XRG terminals in an optimized internal cable container, above or below to the functional unit

## CombiLine N section

CombiLine N sections allow the installation of CombiLine N modules, giving to Panel Builder a modular distribution panel system for secondary distribution integrated in main distribution low voltage switchgear.











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Due to possible developments of standards as well as of materials, the characteristics and dimensions specified in this document may only be considered binding after confirmation by ABB SACE.